NEUROSCIENCE

International journal under the editorial direction of IBRO

Volume 95, 2000

TITLE SECTION,
LIST OF CONTENTS,
AUTHOR AND KEY WORD INDEX

PERGAMON

IBRO

NEUROSCIENCE

Chief Editor

A. D. SMITH: *Department of Pharmacology, University of Oxford, Mansfield Road, Oxford OX1 3QT, U.K.*

Associate Editor

D. G. AMARAL: *Department of Psychiatry and Center for Neuroscience, University of California, 1544 Newton Ct, Davis, California, CA 95616, U.S.A.*

Editorial Board

T. ARENDT (*Leipzig*)
A. BJORKLUND (*Lund*)
T. V. P. BLISS (*London*)
J. P. BOLAM (*Oxford*)
P. BRUNDIN (*Lund*)
G. BUZSÁKI (*Newark, NJ*)
D. W. CHOI (*St Louis, MO*)
J. T. COYLE (*Belmont, MA*)
A. C. CUELLO (*Montreal*)
L. DELLA CORTE (*Firenze*)
F. E. DUDEK (*Fort Collins, CO*)
A. W. DUGGAN (*Sydney*)
D. EDGAR (*Liverpool*)
M. M. ESIRI (*Oxford*)
R. L. M. FAULL (*Auckland*)
T. F. FREUND (*Budapest*)
F. H. GAGE (*La Jolla, CA*)
J. GARTHWAITE (*London*)
C. R. GERFEN (*Bethesda, MD*)
J. GLOWINSKI (*Paris*)
J. A. GRAY (*London*)
A. M. GRAYBIEL (*Cambridge, MA*)
R. W. GUILLERY (*Madison, WI*)
M. HAMON (*Paris*)
P. J. HARRISON (*Oxford*)
F. F. HEFTI (*Harlow*)
Z. HENDERSON (*Leeds*)
J. HERBERT (*Cambridge*)
M. HERKENHAM (*Bethesda, MD*)
T. HÖKFELT (*Stockholm*)
P. HOLZER (*Graz*)
S. P. HUNT (*London*)
B. E. JONES (*Montreal*)
E. G. JONES (*Davis, CA*)
G. JU (*Xi'an*)
B. I. KHODOROV (*Moscow*)
T. KOSAKA (*Fukuoka*)
G. W. KREUTZBERG (*Planegg-Martinsried*)
O. A. KRISHTAL (*Kiev*)
S. N. LAWSON (*Bristol*)
J. D. LEVINE (*San Francisco, CA*)
C. A. MARSDEN (*Nottingham*)
A. I. MATUS (*Basle*)
É. MUGNAINI (*Chicago, IL*)
D. G. NICHOLLS (*Dundee*)
T. ONO (*Toyanda*)
O. P. OTTERSEN (*Oslo*)
V. H. PERRY (*Southampton*)
J. M. POLAK (*London*)
S. J. REDMAN (*Canberra*)
H. A. ROBERTSON (*Halifax, N.S.*)
R. A. RUSH (*Adelaide*)
T. E. SALT (*London*)
R. SCHMIDT-KASTNER (*Miami, FL*)
S. SNYDER (*Baltimore, MD*)
M. V. SOFRONIEW (*Cambridge*)
P. SOMOGYI (*Oxford*)
C. SOTELO (*Paris*)
K. STARKE (*Freiburg*)
M. S. STARR (*London*)
M. STERIADE (*Quebec*)
D. T. THEODOSIS (*Bordeaux*)
A. M. THOMPSON (*London*)
K. UNSICKER (*Heidleberg*)
S. R. VINCENT (*Vancouver*)
L. VYKLICKY (*Prague*)
X. S. T. WAN (*Beijing*)
W. WISDEN (*Cambridge*)
Y. YAROM (*Jerusalem*)
D. S. ZAHM (*St Louis, MO*)
R. E. ZIGMOND (*Cleveland, OH*)
H. ZIMMERMANN (*Frankfurt*)

Founding Editors

P. G. KOSTYUK, R. LLINÁS, A. D. SMITH

Editorial Assistant: J. J. HANLEY *(Oxford)*

Published 28 *per annum, semi-monthly with additional issues in March, June, September and December (seven volumes,* 2000*)*

Copyright © 1999 IBRO

LIST OF CONTENTS

VOLUME 95 NUMBER 1

LETTERS TO NEUROSCIENCE

W. Y. Li, J. P. Butler, J. E. Hale, D. B. McClure, S. P. Little, D. L. Czilli and **L. K. Simmons**	Suppression of an amyloid β peptide-mediated calcium channel response by a secreted β-amyloid precursor protein	1
G. A. Bohme, M. Laville, C. Ledent, M. Parmentier and **A. Imperato**	Enhanced long-term potentiation in mice lacking cannabinoid CB_1 receptors	5

RESEARCH PAPERS

M. Dubois-Dauphin, C. Poitry-Yamate, F. de Bilbao, A. K. Julliard, F. Jourdan and **G. Donati**	Early postnatal Müller cell death leads to retinal but not optic nerve degeneration in NSE-Hu-Bcl-2 transgenic mice	9
T. Sugai, M. Sugitani and **N. Onoda**	Novel subdivisions of the rat accessory olfactory bulb revealed by the combined method with lectin histochemistry, electrophysiological and optical recordings	23
M. A. Smith and **M. L. J. Ashford**	Inactivation of large-conductance, calcium-activated potassium channels in rat cortical neurons	33
A. Kohn, C. Metz, M. Quibrera, M. A. Tommerdahl and **B. L. Whitsel**	Functional neocortical microcircuitry demonstrated with intrinsic signal optical imaging *in vitro*	51
H. Straub, R. Köhling, A. Frieler, M. Grigat and **E.-J. Speckmann**	Contribution of L-type calcium channels to epileptiform activity in hippocampal and neocortical slices of guinea-pigs	63
A. I. Omar, V. V. Senatorov and **B. Hu**	Ethidium bromide staining reveals rapid cell dispersion in the rat dentate gyrus following ouabain-induced injury	73
T. V. Dunwiddie and **L. Diao**	Regulation of extracellular adenosine in rat hippocampal slices is temperature dependent: role of adenosine transporters	81
W. T. Lee, Y. Z. Shen and **C. Chang**	Neuroprotective effect of lamotrigine and MK-801 on rat brain lesions induced by 3-nitropropionic acid: evaluation by magnetic resonance imaging and *in vivo* proton magnetic resonance spectroscopy	89
A. Fisher, C. S. Biggs, O. Eradiri and **M. S. Starr**	Dual effects of L-3,4-dihydroxyphenylalanine on aromatic L-amino acid decarboxylase, dopamine release and motor stimulation in the reserpine-treated rat: evidence that behaviour is dopamine independent	97
I. N. Krasnova, E. R. Bychkov, V. I. Lioudyno, O. E. Zubareva and **S. A. Dambinova**	Intracerebroventricular administration of substance P increases dopamine content in the brain of 6-hydroxydopamine-lesioned rats	113
A. Chadha, L. G. Dawson, P. G. Jenner and **S. Duty**	Effect of unilateral 6-hydroxydopamine lesions of the nigrostriatal pathway on $GABA_A$ receptor subunit gene expression in the rodent basal ganglia and thalamus	119
A. Charara, C. Heilman, A. I. Levey and **Y. Smith**	Pre- and postsynaptic localization of $GABA_B$ receptors in the basal ganglia in monkeys	127
J. F. R. Paton, Y.-W. Li, J. Deuchars and **S. Kasparov**	Properties of solitary tract neurons receiving inputs from the sub-diaphragmatic vagus nerve	141
J. Y. H. Chan, J.-W. Chang and **S. H. H. Chan**	Role of calcium/calmodulin-dependent protein kinases in expression of Fos protein in the nucleus tractus solitarii after sustained hypertension	155
T. Borsello, A. Di Luzio, M. T. Ciotti, P. Calissano and **C. Galli**	Granule neuron DNA damage following deafferentation in adult rats cerebellar cortex: a lesion model	163
A. Dumoulin, A. Privat and **M. Giménez y Ribotta**	Transplantation of embryonic raphe cells regulates the modifications of the GABAergic phenotype occurring in the injured spinal cord	173
V. N. Dedov and **B. D. Roufogalis**	Mitochondrial calcium accumulation following activation of vanilloid (VR1) receptors by capsaicin in dorsal root ganglion neurons	183
R. Amir and **M. Devor**	Functional cross-excitation between afferent A- and C-neurons in dorsal root ganglia	189
X. Zhang, G. de Araujo Lucas, R. Elde, Z. Wiesenfeld-Hallin and **T. Hökfelt**	Effect of morphine on cholecystokinin and μ-opioid receptor-like immunoreactivities in rat spinal dorsal horn neurons after peripheral axotomy and inflammation	197

2 251HI XL 1754 6/00 31249-200

S. Matsuo, H. Ichikawa, I. Silos-Santiago, J. J. A. Arends, T. A. Henderson, K. Kiyomiya, M. Kurebe and **M. F. Jacquin**	Proprioceptive afferents survive in the masseter muscle of trkC knockout mice	209
M. Ideguchi, K. Kajiwara, K. Yoshikawa, T. Uchida and **H. Ito**	Local adenovirus-mediated CTLA4-immunoglobulin expression suppresses the immune responses to adenovirus vectors in the brain	217
M. M. Santafé, F. J. Urbano, M. A. Lanuza and **O. D. Uchitel**	Multiple types of calcium channels mediate transmitter release during functional recovery of botulinum toxin type A-poisoned mouse motor nerve terminals	227
H. U. Zeilhofer, N. M. Blank, W. L. Neuhuber and **D. Swandulla**	Calcium-dependent inactivation of neuronal calcium channel currents is independent of calcineurin	235
M. Beck, M. K. Brückner, M. Holzer, S. Kaap, T. Pannicke, T. Arendt and **V. Bigl**	Guinea-pig primary cell cultures provide a model to study expression and amyloidogenic processing of endogenous amyloid precursor protein	243
J. J. Collins, K. Wilson, R. Fischer-Colbrie and **R. E. Papka**	Distribution and origin of secretoneurin-immunoreactive nerves in the female rat uterus	255
S. M. Waters and **J. E. Krause**	Distribution of galanin-1, -2 and -3 receptor messenger RNAs in central and peripheral rat tissues	265
J.-Z. Guo and **V. A. Chiappinelli**	Muscarinic receptors mediate enhancement of spontaneous GABA release in the chick brain	273
J. Chen, L. He, B. Dinger and **S. Fidone**	Stimulus-specific signaling pathways in rabbit carotid body chemoreceptors	283
K. M. Frick, L. A. Burlingame, J. A. Arters and **J. Berger-Sweeney**	Reference memory, anxiety and estrous cyclicity in C57BL/6NIA mice are affected by age and sex	293
K. Braun, E. Lange, M. Metzger and **G. Poeggel**	Maternal separation followed by early social deprivation affects the development of monoaminergic fiber systems in the medial prefrontal cortex of *Octodon degus*	309
EDITORIAL ANNOUNCEMENT		I

VOLUME 95 NUMBER 2

LETTER TO NEUROSCIENCE

M. Zaninetti, C. Blanchet, E. Tribollet, D. Bertrand and **M. Raggenbass**	Magnocellular neurons of the rat supraoptic nucleus are endowed with functional nicotinic acetylcholine receptors	319

RESEARCH PAPERS

N. Buonviso and **M. Chaput**	Olfactory experience decreases responsiveness of the olfactory bulb in the adult rat	325
M. K. Österlund, E. Keller and **Y. L. Hurd**	The human forebrain has discrete estrogen receptor α messenger RNA expression: high levels in the amygdaloid complex	333
M. O. Cunningham, A. Dhillon, S. J. Wood and **R. S. G. Jones**	Reciprocal modulation of glutamate and GABA release may underlie the anticonvulsant effect of phenytoin	343
J. Puoliväli, L. Pradier and **P. Riekkinen Jr**	Impaired recovery of noradrenaline levels in apolipoprotein E-deficient mice after *N*-(2-chloroethyl)-*N*-ethyl-2-bromobenzylamine lesion	353
Á. Kelly, C. Maguire and **M. A. Lynch**	Deficits in nerve growth factor release and tyrosine receptor kinase phosphorylation are associated with age-related impairment in long-term potentiation in the dentate gyrus	359
Z. Preston, K. Lee, L. Widdowson, P. J. Richardson and **R. D. Pinnock**	Tachykinins increase [^{3}H]acetylcholine release in mouse striatum through multiple receptor subtypes	367
Z. Puschban, C. Scherfler, R. Granata, P. Laboyrie, N. P. Quinn, P. Jenner, W. Poewe and **G. K. Wenning**	Autoradiographic study of striatal dopamine re-uptake sites and dopamine D_1 and D_2 receptors in a 6-hydroxydopamine and quinolinic acid double-lesion rat model of striatonigral degeneration (multiple system atrophy) and effects of embryonic ventral mesencephalic, striatal or co-grafts	377
S. Ueda, M. Aikawa, A. Ishizuya-Oka, S. Yamaoka, N. Koibuchi and **K. Yoshimoto**	Age-related dopamine deficiency in the mesostriatal dopamine system of zitter mutant rats: regional fiber vulnerability in the striatum and the olfactory tubercle	389
J. D. Elsworth, J. R. Taylor, J. R. Sladek Jr, T. J. Collier, D. E. Redmond Jr and **R. H. Roth**	Striatal dopaminergic correlates of stable parkinsonism and degree of recovery in old-world primates one year after MPTP treatment	399
J. A. Feeley Kearney and **R. L. Albin**	Intrasubthalamic nucleus metabotropic glutamate receptor activation: a behavioral, Fos immunohistochemical and [^{14}C]2-deoxyglucose autoradiographic study	409

T. R. Werkman, C. G. Kruse, H. Nievelstein, S. K. Long and **W. J. Wadman**	Neurotensin attenuates the quinpirole-induced inhibition of the firing rate of dopamine neurons in the rat substantia nigra pars compacta and the ventral tegmental area	417
B. Mirza, H. Hadberg, P. Thomsen and **T. Moos**	The absence of reactive astrocytosis is indicative of a unique inflammatory process in Parkinson's disease	425
T. Jolas, E. J. Nestler and **G. K. Aghajanian**	Chronic morphine increases GABA tone on serotonergic neurons of the dorsal raphe nucleus: association with an up-regulation of the cyclic AMP pathway	433
L. Imeri, M. Mancia, S. Bianchi and **M. R. Opp**	5-Hydroxytryptophan, but not L-tryptophan, alters sleep and brain temperature in rats	445
K. K. K. Chung, M. Martinez and **J. Herbert**	*c-fos* expression, behavioural, endocrine and autonomic responses to acute social stress in male rats after chronic restraint: modulation by serotonin	453
G. Wotherspoon and **J. V. Priestley**	Expression of the 5-HT_{1B} receptor by subtypes of rat trigeminal ganglion cells	465
S. Yamagishi, N. Fujikawa, K. Kohara, K. Tominaga-Yoshino and **A. Ogura**	Increased exocytotic capability of rat cerebellar granule neurons cultured under depolarizing conditions	473
M. Björklund, J. Sirviö, M. Riekkinen, J. Sallinen, M. Scheinin and **P. Riekkinen Jr**	Overexpression of alpha2C-adrenoceptors impairs water maze navigation	481
M. D. Cassell, H. Yi and **W. T. Talman**	Glycine receptor (gephyrin) immunoreactivity is present on cholinergic neurons in the dorsal vagal complex	489
P. D. Potts, J. Ludbrook, T. A. Gillman-Gaspari, J. Horiuchi and **R. A. L. Dampney**	Activation of brain neurons following central hypervolaemia and hypovolaemia: contribution of baroreceptor and non-baroreceptor inputs	499
T. Thomas, J. H. St Lambert, M. R. Dashwood and **K. M. Spyer**	Localization and action of adenosine A_{2a} receptors in regions of the brainstem important in cardiovascular control	513
N. V. Voitenko, I. A. Kruglikov, E. P. Kostyuk and **P. G. Kostyuk**	Effect of streptozotocin-induced diabetes on the activity of calcium channels in rat dorsal horn neurons	519
Y.-X. Tao, A. Hassan, E. Haddad and **R. A. Johns**	Expression and action of cyclic GMP-dependent protein kinase Iα in inflammatory hyperalgesia in rat spinal cord	525
C. Scott, M. J. M. Perry, P. E. Raven, E. J. Massey and **S. J. W. Lisney**	Capsaicin-sensitive afferents are involved in signalling transneuronal effects between cutaneous sensory nerves	535
J. Orendáčová, M. Maršala, I. Šulla, J. Kafka, P. Jalč, D. Čižková, Y. Taira and **J. Maršala**	Incipient cauda equina syndrome as a model of somatovisceral pain in dogs: spinal cord structures involved as revealed by the expression of c-*fos* and NADPH diaphorase activity	543
A. M. Aloisi and **I. Ceccarelli**	Role of gonadal hormones in formalin-induced pain responses of male rats: modulation by estradiol and naloxone administration	559
I. D. Neumann, L. Torner and **A. Wigger**	Brain oxytocin: differential inhibition of neuroendocrine stress responses and anxiety-related behaviour in virgin, pregnant and lactating rats	567
M. G. Proescholdt, B. Hutto, L. S. Brady and **M. Herkenham**	Studies of cerebrospinal fluid flow and penetration into brain following lateral ventricle and cisterna magna injections of the tracer [^{14}C]inulin in rat	577
H. Tanii, M. Ankarcrona, F. Flood, C. Nilsberth, N. D. Mehta, J. Perez-Tur, B. Winblad, E. Benedikz and **R. F. Cowburn**	Alzheimer's disease presenilin-1 exon 9 deletion and L250S mutations sensitize SH-SY5Y neuroblastoma cells to hyperosmotic stress-induced apoptosis	593
A. N. van den Pol and **D. D. Spencer**	Differential neurite growth on astrocyte substrates: interspecies facilitation in green fluorescent protein-transfected rat and human neurons	603
R. Janáky, C. A. Shaw, V. Varga, A. Hermann, R. Dohovics, P. Saransaari and **S. S. Oja**	Specific glutathione binding sites in pig cerebral cortical synaptic membranes	617

VOLUME 95 NUMBER 3

COMMENTARY

J. R. Villablanca and **D. A. Hovda**	Developmental neuroplasticity in a model of cerebral hemispherectomy and stroke	625

RESEARCH PAPERS

C. Ayata, M. Shimizu-Sasamata, E. H. Lo, J. L. Noebels and **M. A. Moskowitz**	Impaired neurotransmitter release and elevated threshold for cortical spreading depression in mice with mutations in the α1A subunit of P/Q type calcium channels	639

S. J. A. Lokwan, P. G. Overton, M. S. Berry and **D. Clark**	The medial prefrontal cortex plays an important role in the excitation of A10 dopaminergic neurons following intravenous muscimol administration	647
J. Mariño, A. Canedo and **J. Aguilar**	Sensorimotor cortical influences on cuneate nucleus rhythmic activity in the anesthetized cat	657
B. K. Yee	Cytotoxic lesion of the medial prefrontal cortex abolishes the partial reinforcement extinction effect, attenuates prepulse inhibition of the acoustic startle reflex and induces transient hyperlocomotion, while sparing spontaneous object recognition memory in the rat	675
M. Yonemori, H. Nishijo, T. Uwano, R. Tamura, I. Furuta, M. Kawasaki, Y. Takashima and **T. Ono**	Orbital cortex neuronal responses during an odor-based conditioned associative task in rats	691
P. R. Blanquet	Identification of two persistently activated neurotrophin-regulated pathways in rat hippocampus	705
M. Bobinski, M. J. de Leon, J. Wegiel, S. DeSanti, A. Convit, L. A. Saint Louis, H. Rusinek and **H. M. Wisniewski**	The histological validation of *post mortem* magnetic resonance imaging-determined hippocampal volume in Alzheimer's disease	721
A. A. Boyt, K. Taddei, J. Hallmayer, E. Helmerhorst, S. E. Gandy, S. Craft and **R. N. Martins**	The effect of insulin and glucose on the plasma concentration of Alzheimer's amyloid precursor protein	727
L. D. Kochan, S. B. Churn, O. Omojokun, A. Rice and **R. J. DeLorenzo**	Status epilepticus results in an *N*-methyl-D-aspartate receptor-dependent inhibition of Ca^{2+}/calmodulin-dependent kinase II activity in the rat	735
C. Vilchis, J. Bargas, G. X. Ayala, E. Galván and **E. Galarraga**	Ca^{2+} channels that activate Ca^{2+}-dependent K^+ currents in neostriatal neurons	745
C. Winter, J. Schenkel, E. Bürger, C. Eickmeier, M. Zimmermann and **T. Herdegen**	The immunophilin ligand FK506, but not GPI-1046, protects against neuronal death and inhibits c-Jun expression in the substantia nigra pars compacta following transection of the rat medial forebrain bundle	753
T. A. Lovick, D. M. Parry, V. V. Stezhka and **B. M. Lumb**	Serotonergic transmission in the periaqueductal gray matter in relation to aversive behaviour: morphological evidence for direct modulatory effects on identified output neurons	763
H. Yang, P.-Q. Yuan, L. Wang and **Y. Taché**	Activation of the parapyramidal region in the ventral medulla stimulates gastric acid secretion through vagal pathways in rats	773
T. Ishikawa, M. Marsala, T. Sakabe and **T. L. Yaksh**	Characterization of spinal amino acid release and touch-evoked allodynia produced by spinal glycine or $GABA_A$ receptor antagonist	781
Y. Chen, G. Bacon, E. Sher, B. P. Clark, M. J. Kallman, R. A. Wright, B. G. Johnson, D. Schoepp and **A. E. Kingston**	Evaluation of the activity of a novel metabotropic glutamate receptor antagonist (±)-2-amino-2-(3-*cis* and *trans*-carboxycyclobutyl-3-(9-thioxanthyl)propionic acid) in the *in vitro* neonatal spinal cord and in an *in vivo* pain model	787
S. D. Ugarte, G. E. Homanics, L. L. Firestone and **D. L. Hammond**	Sensory thresholds and the antinociceptive effects of GABA receptor agonists in mice lacking the β_3 subunit of the $GABA_A$ receptor	795
M. Kavaliers, T. S. Perrot-Sinal, D. C. Desjardins, S. K. Cross-Mellor and **J. P. Wiebe**	Antinociceptive effects of the neuroactive steroid, 3α-hydroxy-5α-pregnan-20-one and progesterone in the land snail, *Cepaea nemoralis*	807
J. Baulmann, H. Spitznagel, T. Herdegen, T. Unger and **J. Culman**	Tachykinin receptor inhibition and c-Fos expression in the rat brain following formalin-induced pain	813
S. Magnusson, J. Ekström, E. Elmér, M. Kanje, L. Ny and **P. Alm**	Heme oxygenase-1, heme oxygenase-2 and biliverdin reductase in peripheral ganglia from rat, expression and plasticity	821
J. Guan, L. Bennet, S. George, H. J. Waldvogel, R. L. M. Faull, P. D. Gluckman, H. Keunen and **A. J. Gunn**	Selective neuroprotective effects with insulin-like growth factor-1 in phenotypic striatal neurons following ischemic brain injury in fetal sheep	831
L. K. Friedman, L. Belayev, O. F. Alfonso and **M. D. Ginsberg**	Distribution of glutamate and preproenkephalin messenger RNAs following transient focal cerebral ischemia	841
C. V. Dowling-Warriner and **J. E. Trosko**	Induction of gap junctional intercellular communication, connexin43 expression, and subsequent differentiation in human fetal neuronal cells by stimulation of the cyclic AMP pathway	859
M.-C. Paupard, M. A. O'Connell, A. P. Gerber and **R. S. Zukin**	Patterns of developmental expression of the RNA editing enzyme rADAR2	869

E. Doucet, M. C. Miquel, A. Nosjean, D. Vergé, M. Hamon and **M. B. Emerit**	Immunolabeling of the rat central nervous system with antibodies partially selective of the short form of the 5-HT_3 receptor	881
R. Reyes, I. Lauritzen, F. Lesage, M. Ettaiche, M. Fosset and **M. Lazdunski**	Immunolocalization of the arachidonic acid and mechanosensitive baseline TRAAK potassium channel in the nervous system	893
V. Deiss, C. Strazielle and **R. Lalonde**	Regional brain variations of cytochrome oxidase activity and motor co-ordination in *staggerer* mutant mice	903
M. E. Gibbs and **R. J. Summers**	Separate roles for β_2- and β_3-adrenoceptors in memory consolidation	913
A. M. Starikova, N. C. Pogorelaya and **P. G. Kostyuk**	Long-term depolarization changes morphological parameters of PC12 cells	923

VOLUME 95 NUMBER 4

LETTER TO NEUROSCIENCE

E. Brailoiu and **M. D. Miyamoto**	Inositol trisphosphate and cyclic adenosine diphosphate-ribose increase quantal transmitter release at frog motor nerve terminals: possible involvement of smooth endoplasmic reticulum	927

COMMENTARY

M. Sarter and **J. P. Bruno**	Cortical cholinergic inputs mediating arousal, attentional processing and dreaming: differential afferent regulation of the basal forebrain by telencephalic and brainstem afferents	933

RESEARCH PAPERS

A. Pereira, E. Volchan, C. D. Vargas, L. Penetra and **C. E. Rocha-Miranda**	Cortical and subcortical influences on the nucleus of the optic tract of the opossum	953
E. Geijo-Barrientos	Subthreshold inward membrane currents in guinea-pig frontal cortex neurons	965
C. Cheng and **I. J. Reynolds**	Subcellular localization of glutamate-stimulated intracellular magnesium concentration changes in cultured rat forebrain neurons using confocal microscopy	973
L. Tonelli, O. Jöhren, K.-L. Hoe, W. Häuser and **J. M. Saavedra**	Gerbil Angiotensin II AT_1 receptors are highly expressed in the hippocampus and cerebral cortex during postnatal development	981
H. Ehrenreich, R. Nau, C. Dembowski, M. Hasselblatt, M. Barth, A. Hahn, L. Schilling, A.-L. Sirén and **W. Brück**	Endothelin B receptor deficiency is associated with an increased rate of neuronal apoptosis in the dentate gyrus	993
T. Hashimoto, H. Okuno, W. Tokuyama, Y. X. Li and **Y. Miyashita**	Expression of brain-derived neurotrophic factor, neurotrophin-3 and their receptor messenger RNAs in monkey rhinal cortex	1003
A. C. Tomac, A. Grinberg, S. P. Huang, C. Nosrat, Y. Wang, C. Borlongan, S.-Z. Lin, Y.-H. Chiang, L. Olson, H. Westphal and **B. J. Hoffer**	Glial cell line-derived neurotrophic factor receptor α1 availability regulates glial cell line-derived neurotrophic factor signaling: evidence from mice carrying one or two mutated alleles	1011
P. Padungchaichot, J. Y. F. Wong, A. L. Natoli, J. S. Massalas, D. I. Finkelstein, A. L. Lawrence and **J. Drago**	Early direct and transneuronal effects in mice with targeted expression of a toxin gene to D1 dopamine receptor neurons	1025
J. Y. F. Wong, P. Padungchaichot, J. S. Massalas and **J. Drago**	Late direct and transneuronal effects in mice with targeted expression of a toxin gene to D1 dopamine receptor neurons	1035
A. Delgado, A. Sierra, E. Querejeta, R. F. Valdiosera and **J. Aceves**	Inhibitory control of the GABAergic transmission in the rat neostriatum by D_2 dopamine receptors	1043
E. Lorenc-Koci, M. ŚmiaŁowska, L. Antkiewicz-Michaluk, K. Gołembiowska, M. Bajkowska and **S. Wolfarth**	Effect of acute and chronic administration of 1,2,3,4-tetrahydroisoquinoline on muscle tone, metabolism of dopamine in the striatum and tyrosine hydroxylase immunocytochemistry in the substantia nigra, in rats	1049
Q. D. Walker, M. B. Rooney, R. M. Wightman and **C. M. Kuhn**	Dopamine release and uptake are greater in female than male rat striatum as measured by fast cyclic voltammetry	1061
P. Carrive, J. Lee and **A. Su**	Lidocaine blockade of amygdala output in fear-conditioned rats reduces Fos expression in the ventrolateral periaqueductal gray	1071
I. D. Hentall, P. J. Kurle and **T. R. White**	Correlations between serotonin level and single-cell firing in the rat's nucleus raphe magnus	1081

J. Yamuy, I. Pose, C. Pedroarena, F. R. Morales and **M. H. Chase**	Neurotrophin-induced rapid enhancement of membrane potential oscillations in mesencephalic trigeminal neurons	1089
C. M. White, L. Greensmith and **G. Vrbová**	Repeated stimuli for axonal growth causes motoneuron death in adult rats: the effect of botulinum toxin followed by partial denervation	1101
R. A. Newton, S. Bingham, P. D. Davey, A. D. Medhurst, V. Piercy, P. Raval, A. A. Parsons, G. J. Sanger, C. P. Case and **S. N. Lawson**	Identification of differentially expressed genes in dorsal root ganglia following partial sciatic nerve injury	1111
A. B. Smith, L. Motin, N. A. Lavidis and **D. J. Adams**	Calcium channels controlling acetylcholine release from preganglionic nerve terminals in rat autonomic ganglia	1121
N. Quinson, J. P. Miolan and **J. P. Niel**	Muscarinic receptor activation is a prerequisite for the endogenous release of nitric oxide modulating nicotinic transmission within the coeliac ganglion in the rabbit	1129
T. Phillips, S. Rees, S. Augood, H. Waldvogel, R. Faull, C. Svendsen and **P. Emson**	Localization of metabotropic glutamate receptor type 2 in the human brain	1139
C. Bossenmeyer-Pourié, V. Koziel and **J. L. Daval**	Involvement of caspase-1 proteases in hypoxic brain injury. Effects of their inhibitors in developing neurons	1157
K. Otake and **Y. Nakamura**	Sites of action of thyrotropin-releasing hormone on central nervous system neurons revealed by expression of the immediate-early gene c-*fos* in the rat	1167

INDEX

Title Section, Volume Contents, Author and Keyword Indexes for Volume 95 I

AUTHOR INDEX

Aceves, J. 1043
Adams, D. J. 1121
Aghajanian, G. K. 433
Aguilar, J. 657
Aikawa, M. 389
Albin, R. L. 409
Alfonso, O. F. 841
Alm, P. 821
Aloisi, A. M. 559
Amir, R. 189
Ankarcrona, M. 593
Antkiewicz-Michaluk, L. 1049
Arends, J. J. A. 209
Arendt, T. 243
Arters, J. A. 293
Ashford, M. L. J. 33
Augood, S. 1139
Ayala, G. X. 745
Ayata, C. 639

Bacon, G. 787
Bajkowska, M. 1049
Bargas, J. 745
Barth, M. 993
Baulmann, J. 813
Beck, M. 243
Belayev, L. 841
Benedikz, E. 593
Bennet, L. 831
Berger-Sweeney, J. 293
Berry, M. S. 647
Bertrand, D. 319
Bianchi, S. 445
Biggs, C. S. 97
Bigl, V. 243
Bingham, S. 1111
Björklund, M. 481
Blanchet, C. 319
Blank, N. M. 235
Blanquet, P. R. 705
Bobinski, M. 721
Bohme, G. A. 5
Borlongan, C. 1011
Borsello, T. 163
Bossenmeyer-Pourié, C. 1157
Boyt, A. A. 727
Brady, L. S. 577
Brailoiu, E. 927
Braun, K. 309
Bruno, J. P. 933
Brück, W. 993
Brückner, M. K. 243
Buonviso, N. 325
Burlingame, L. A. 293
Butler, J. P. 1
Bürger, E. 753
Bychkov, E. R. 113

Calissano, P. 163
Canedo, A. 657
Carrive, P. 1071
Case, C. P. 1111
Cassell, M. D. 489
Ceccarelli, I. 559
Chadha, A. 119
Chan, J. Y. H. 155
Chan, S. H. H. 155
Chang, C. 89
Chang, J.-W. 155
Chaput, M. 325
Charara, A. 127
Chase, M. H. 1089
Chen, J. 283
Chen, Y. 787
Cheng, C. 973
Chiang, Y.-H. 1011
Chiappinelli, V. A. 273
Chung, K. K. K. 453
Churn, S. B. 735
Ciotti, M. T. 163
Čižková, D. 543
Clark, B. P. 787
Clark, D. 647
Collier, T. J. 399
Collins, J. J. 255
Convit, A. 721
Cowburn, R. F. 593
Craft, S. 727
Cross-Mellor, S. K. 807
Culman, J. 813
Cunningham, M. O. 343
Czilli, D. L. 1

Dambinova, S. A. 113
Dampney, R. A. L. 499
Dashwood, M. R. 513
Daval, J. L. 1157
Davey, P. D. 1111
Dawson, L. G. 119
de Araujo Lucas, G. 197
de Bilbao, F. 9
de Leon, M. J. 721
Dedov, V. N. 183
Deiss, V. 903
Delgado, A. 1043
DeLorenzo, R. J. 735
Dembowski, C. 993
DeSanti, S. 721
Desjardins, D. C. 807
Deuchars, J. 141
Devor, M. 189
Dhillon, A. 343
Di Luzio, A. 163
Diao, L. 81
Dinger, B. 283
Dohovics, R. 617
Donati, G. 9
Doucet, E. 881
Dowling-Warriner, C. V. 859
Drago, J. 1025, 1035
Dubois-Dauphin, M. 9
Dumoulin, A. 173
Dunwiddie, T. V. 81
Duty, S. 119

Ehrenreich, H. 993
Eickmeier, C. 753
Ekström, J. 821
Elde, R. 197
Elmér, E. 821
Elsworth, J. D. 399
Emerit, M. B. 881
Emson, P. 1139
Eradiri, O. 97
Ettaiche, M. 893

Faull, R. 1139
Faull, R. L. M. 831
Feeley Kearney, J. A. 409
Fidone, S. 283
Finkelstein, D. I. 1025
Firestone, L. L. 795
Fischer-Colbrie, R. 255
Fisher, A. 97
Flood, F. 593
Fosset, M. 893
Frick, K. M. 293
Friedman, L. K. 841
Frieler, A. 63
Fujikawa, N. 473
Furuta, I. 691

Galarraga, E. 745
Galli, C. 163
Galván, E. 745
Gandy, S. E. 727
Geijo-Barrientos, E. 965
George, S. 831
Gerber, A. P. 869
Gibbs, M. E. 913
Gillman-Gaspari, T. A. 499
Giménez y Ribotta, M. 173
Ginsberg, M. D. 841
Gluckman, P. D. 831
GoŁembiowska, K. 1049
Granata, R. 377
Greensmith, L. 1101
Grigat, M. 63
Grinberg, A. 1011
Guan, J. 831
Gunn, A. J. 831
Guo, J.-Z. 273

Hadberg, H. 425
Haddad, E. 525
Hahn, A. 993
Hale, J. E. 1
Hallmayer, J. 727
Hammond, D. L. 795
Hamon, M. 881
Hashimoto, T. 1003
Hassan, A. 525
Hasselblatt, M. 993
Häuser, W. 981
He, L. 283
Heilman, C. 127
Helmerhorst, E. 727
Henderson, T. A. 209
Hentall, I. D. 1081
Herbert, J. 453
Herdegen, T. 753, 813
Herkenham, M. 577
Hermann, A. 617
Hoe, K.-L. 981
Hoffer, B. J. 1011
Holzer, M. 243
Homanics, G. E. 795
Horiuchi, J. 499
Hovda, D. A. 625
Hökfelt, T. 197
Hu, B. 73
Huang, S. P. 1011
Hurd, Y. L. 333
Hutto, B. 577

Ichikawa, H. 209
Ideguchi, M. 217
Imeri, L. 445
Imperato, A. 5
Ishikawa, T. 781
Ishizuya-Oka, A. 389
Ito, H. 217

Jacquin, M. F. 209
Jalč, P. 543
Janáky, R. 617
Jenner, P. 377
Jenner, P. G. 119
Johns, R. A. 525

Johnson, B. G. 787
Jolas, T. 433
Jones, R. S. G. 343
Jourdan, F. 9
Jöhren, O. 981
Julliard, A. K. 9

Kaap, S. 243
Kafka, J. 543
Kajiwara, K. 217
Kallman, M. J. 787
Kanje, M. 821
Kasparov, S. 141
Kavaliers, M. 807
Kawasaki, M. 691
Keller, E. 333
Kelly, Á. 359
Keunen, H. 831
Kingston, A. E. 787
Kiyomiya, K. 209
Kochan, L. D. 735
Kohara, K. 473
Kohn, A. 51
Koibuchi, N. 389
Kostyuk, E. P. 519
Kostyuk, P. G. 519, 923
Koziel, V. 1157
Köhling, R. 63
Krasnova, I. N. 113
Krause, J. E. 265
Kruglikov, I. A. 519
Kruse, C. G. 417
Kuhn, C. M. 1061
Kurebe, M. 209
Kurle, P. J. 1081

Laboyrie, P. 377
Lalonde, R. 903
Lange, E. 309
Lanuza, M. A. 227
Lauritzen, I. 893
Lavidis, N. A. 1121
Laville, M. 5
Lawrence, A. L. 1025
Lawson, S. N. 1111
Lazdunski, M. 893
Ledent, C. 5
Lee, J. 1071
Lee, K. 367
Lee, W. T. 89
Lesage, F. 893
Levey, A. I. 127
Li, W. Y. 1
Li, Y. X. 1003
Li, Y.-W. 141
Lin, S.-Z. 1011
Lioudyno, V. I. 113
Lisney, S. J. W. 535
Little, S. P. 1
Lo, E. H. 639
Lokwan, S. J. A. 647
Long, S. K. 417
Lorenc-Koci, E. 1049
Lovick, T. A. 763
Ludbrook, J. 499
Lumb, B. M. 763
Lynch, M. A. 359

Magnusson, S. 821
Maguire, C. 359
Mancia, M. 445
Mariño, J. 657
Marsala, M. 781
Maršala, J. 543
Maršala, M. 543
Martinez, M. 453
Martins, R. N. 727
Massalas, J. S. 1025, 1035
Massey, E. J. 535
Matsuo, S. 209
McClure, D. B. 1
Medhurst, A. D. 1111
Mehta, N. D. 593
Metz, C. 51
Metzger, M. 309
Miolan, J. P. 1129
Miquel, M. C. 881
Mirza, B. 425
Miyamoto, M. D. 927
Miyashita, Y. 1003
Moos, T. 425
Morales, F. R. 1089
Moskowitz, M. A. 639
Motin, L. 1121

Nakamura, Y. 1167
Natoli, A. L. 1025
Nau, R. 993
Nestler, E. J. 433
Neuhuber, W. L. 235
Neumann, I. D. 567
Newton, R. A. 1111
Niel, J. P. 1129
Nievelstein, H. 417
Nilsberth, C. 593
Nishijo, H. 691
Noebels, J. L. 639
Nosjean, A. 881
Nosrat, C. 1011
Ny, L. 821

O'Connell, M. A. 869
Ogura, A. 473
Oja, S. S. 617
Okuno, H. 1003
Olson, L. 1011
Omar, A. I. 73
Omojokun, O. 735
Ono, T. 691
Onoda, N. 23
Opp, M. R. 445
Orendáčová, J. 543
Otake, K. 1167
Overton, P. G. 647
Österlund, M. K. 333

Padungchaichot, P. 1025, 1035
Pannicke, T. 243
Papka, R. E. 255
Parmentier, M. 5
Parry, D. M. 763
Parsons, A. A. 1111
Paton, J. F. R. 141
Paupard, M.-C. 869
Pedroarena, C. 1089
Penetra, L. 953
Pereira, A. 953
Perez-Tur, J. 593
Perrot-Sinal, T. S. 807
Perry, M. J. M. 535
Phillips, T. 1139
Piercy, V. 1111
Pinnock, R. D. 367
Poeggel, G. 309
Poewe, W. 377
Pogorelaya, N. C. 923
Poitry-Yamate, C. 9
Pose, I. 1089
Potts, P. D. 499
Pradier, L. 353
Preston, Z. 367
Priestley, J. V. 465
Privat, A. 173
Proescholdt, M. G. 577
Puoliväli, J. 353
Puschban, Z. 377

Querejeta, E. 1043
Quibrera, M. 51
Quinn, N. P. 377
Quinson, N. 1129

Raggenbass, M. 319
Raval, P. 1111
Raven, P. E. 535
Redmond, D. E. Jr 399
Rees, S. 1139
Reyes, R. 893
Reynolds, I. J. 973
Rice, A. 735
Richardson, P. J. 367
Riekkinen, M. 481
Riekkinen, P. Jr 353, 481
Rocha-Miranda, C. E. 953
Rooney, M. B. 1061
Roth, R. H. 399
Roufogalis, B. D. 183
Rusinek, H. 721

Saavedra, J. M. 981
Saint Louis, L. A. 721
Sakabe, T. 781
Sallinen, J. 481
Sanger, G. J. 1111
Santafé, M. M. 227
Saransaari, P. 617
Sarter, M. 933
Scheinin, M. 481
Schenkel, J. 753
Scherfler, C. 377
Schilling, L. 993
Schoepp, D. 787
Scott, C. 535
Senatorov, V. V. 73
Shaw, C. A. 617
Shen, Y. Z. 89
Sher, E. 787
Shimizu-Sasamata, M. 639
Sierra, A. 1043
Silos-Santiago, I. 209
Simmons, L. K. 1
Sirén, A.-L. 993
Sirviö, J. 481
Sladek, J. R. Jr 399
Smith, A. B. 1121
Smith, M. A. 33
Smith, Y. 127
Speckmann, E.-J. 63
Spencer, D. D. 603
Spitznagel, H. 813
Spyer, K. M. 513
St Lambert, J. H. 513
Starikova, A. M. 923
Starr, M. S. 97
Stezhka, V. V. 763
Straub, H. 63
Strazielle, C. 903
Su, A. 1071
Sugai, T. 23
Sugitani, M. 23
Summers, R. J. 913
Svendsen, C. 1139
Swandulla, D. 235
ŚmiaŁowska, M. 1049
Šulla, I. 543

Taché, Y. 773
Taddei, K. 727
Taira, Y. 543
Takashima, Y. 691
Talman, W. T. 489

Tamura, R. 691
Tanii, H. 593
Tao, Y.-X. 525
Taylor, J. R. 399
Thomas, T. 513
Thomsen, P. 425
Tokuyama, W. 1003
Tomac, A. C. 1011
Tominaga-Yoshino, K. 473
Tommerdahl, M. A. 51
Tonelli, L. 981
Torner, L. 567
Tribollet, E. 319
Trosko, J. E. 859

Uchida, T. 217
Uchitel, O. D. 227
Ueda, S. 389
Ugarte, S. D. 795
Unger, T. 813
Urbano, F. J. 227
Uwano, T. 691

Valdiosera, R. F. 1043
van den Pol, A. N. 603
Varga, V. 617
Vargas, C. D. 953
Vergé, D. 881
Vilchis, C. 745
Villablanca, J. R. 625
Voitenko, N. V. 519
Volchan, E. 953
Vrbová, G. 1101

Wadman, W. J. 417
Waldvogel, H. 1139
Waldvogel, H. J. 831
Walker, Q. D. 1061
Wang, L. 773
Wang, Y. 1011
Waters, S. M. 265
Wegiel, J. 721
Wenning, . K. 377
Werkman, T. R. 417
Westphal, H. 1011
White, C. M. 1101
White, T. R. 1081
Whitsel, B. L. 51
Widdowson, L. 367
Wiebe, J. P. 807
Wiesenfeld-Hallin, Z. 197
Wigger, A. 567
Wightman, R. M. 1061
Wilson, K. 255
Winblad, B. 593
Winter, C. 753
Wisniewski, H. M. 721
Wolfarth, S. 1049
Wong, J. Y. F. 1025, 1035
Wood, S. J. 343
Wotherspoon, G. 465
Wright, R. A. 787

Yaksh, T. L. 781
Yamagishi, S. 473
Yamaoka, S. 389
Yamuy, J. 1089
Yang, H. 773
Yee, B. K. 675
Yi, H. 489
Yonemori, M. 691
Yoshikawa, K. 217
Yoshimoto, K. 389
Yuan, P.-Q. 773

Zaninetti, M. 319
Zeilhofer, H. U. 235
Zhang, X. 197
Zimmermann, M. 753
Zubareva, O. E. 113
Zukin, R. S. 869

KEY WORD INDEX

β-amyloid precursor protein, 1
β-amyloid protein, 1
β-galactosidase, 217
β_2-and β_3-adrenoceptors, 913
β_3 subunit, 795
ω-agatoxin-IVA, 227
ω-conotoxin, 519
ω-conotoxin-GVIA, 227

1,2,3,4-tetrahydroisoquinoline, 1049
1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP), 399
2P domain K^+ channel, 893
3-nitropropionic acid, 89
5-HT, 453, 773
5-HT_3 receptors, 881
5-hydroxytryptamine, 763
6-hydroxydopamine, 113

Aβ toxicity neuroprotection, 1
acetic acid-writhing, 787
acetylcholine, 367, 489, 933, 1121
acidic epididymal glycoprotein, 1111
ACTH, 567
activity-dependent survival, 473
ADAR2 mRNA expression, 869
adenosine, 81, 513
adenosine transport, 81
adenovirus vectors, 217
adenylyl cyclase, 433
afterhyperpolarization, 745
aging, 293
allodynia, 795
alpha2C-adrenergic receptors, 481
alpha2C-antagonist, 481
Alzheimer's, 727
Alzheimer's Disease, 1, 243, 353, 593
amiloride, 1121
AMPA receptors, 869
amygdala, 333
amygdalar complex, 647
amyloid, 727
amyloid beta, 243
amyloid precursor protein, 243
analgesia, 197
antibodies, 881
antibody, 1139
antinociception, 795, 1081
antipsychotic drugs, 1167
apolipoprotein E, 353, 727
apoptosis, 9, 73, 163, 593, 993, 1157
area 35, 1003
area 36, 1003
aromatic L-amino acid decarboxylase, 97
atipamezole, 481
attention, 675, 933
autophosphorylation, 735
autoradiography, 319, 377, 513, 577, 981
aversion, 763
axon, 489
axonal sprouting, 1101
axotomy, 753

baroreceptor reflex, 513
basal forebrain, 933
basal ganglia, 119, 409, 745, 1043
Bcl-2, 9
behavior, 445, 1167
behaviour, 97, 559
bicuculline, 781
biliverdin reductase, 821
binocularity, 953
biocytin, 763
blood volume, 499
botulinum toxin type A, 227
brain, 217, 813, 981
brain maturation, 309
brain slices, 5, 319
brain-derived neurotrophic factor, 705
brainstem, 513, 933, 1089
budipine, 97

c-*fos*, 155, 1167
c-fos autonomic, 453
c-Jun, 753
C-polymodal nociceptor afferents, 535
Ca^{2+} channel, 235
calcineurin, 235
calcium-activated potassium currents, 745
calcium/calmodulin-dependent protein kinase, 155
calcium channel, 1
calcium channel blockers, 1121
calcium channels, 63, 183, 227, 1121
calcium current, 965
calcium currents, 745
calmodulin, 283
capsaicin, 183
cardiorespiratory, 141
cardiovascular, 513
cat, 657
catecholamine release, 283
cauda equina constrictions, 543
caudate nucleus, 399
caudate–putamen, 841
cell culture, 1157
central cardiovascular pathways, 499
central integration, 141
central nervous system, 265, 881
cerebellar granule neuron, 473
cerebellum, 163, 903
cerebral cortex, 33
cerebral cortical membranes, 617
cerebral hemispherectomy, 625
cerebrospinal fluid, 577
CGRP, 465
chemoreceptor nerve activity, 283
chick, 913
choline acetyltransferase, 489
cholinergic, 353
chronic depolarization, 923
CO, 821
co-existence, 197
co-localization, 489
co-localization Fos-LI+NADPHd, 543
confocal microscopy, 973
connexin43, 859
contralateral effect, 535
cortex, 603
cortical stimulation, 953
corticosterone, 453, 567
corticostriatal transmission, 1043
cross-sensitization, 453
CTLA4-Ig, 217
cuneate nucleus, 657
cyclic adenosine diphosphate-ribose, 927
cyclic AMP response element binding protein, 155
cytochrome oxidase, 903

deafferentation, 163
dendrite, 489
dentate granule cell, 603
dentate gyrus, 993
developmental brain damage, 625
developmental regulation, 869
DHPG, 787
diabetes, 519, 727
differential display, 1111

differentiation, 859, 923
dihydro-β-erythroidine, 319
dihydropyridine, 63
dipyridamole, 81
discriminated avoidance learning, 913
disinhibition, 647
distribution, 265, 1139
dog, 543
dopamine, 113, 965
dopamine D_1 and D_2 receptors, 377
dopamine neuron, 417
dopamine release, 97, 1061
dopamine re-uptake sites, 377
dopamine transporter, 1025
dopamine uptake, 1061
dopaminergic neuron, 389
dorsal raphe, 433
dorsal root ganglion, 189, 255, 1111
dorsal root ganglion neurons, 183
dreaming, 933
DSP-4, 353
dynorphin, 1035
dysplasia, 9

electrolytic lesions, 647
electrophysiology, 5, 639
electrotonic length, 965
elevated plus-maze, 567
embryonic grafts, 377
emotional experience, 309
endogenous toxins, 1049
endothelin, 993
endothelin B receptors, 993
enkephalin, 1035
entorhinal cortex, 343, 1003
epilepsy, 63, 735
estrous cycle, 293, 1061
ethidium bromide, 73
excitatory amino acid receptors, 869
excitatory amino acid release, 781
exocytosis, 473
extracellular recording, 417

familiarization, 325
fast cyclic voltammetry, 1081
fear, 1071
feedforward inhibition, 1043
ferritin, 425
fetal sheep, 831
firing pattern, 745
FK506, 235, 753
FKBP, 235
FM1-43 fluorometry, 473
focal ischemia, 841
Fos, 773, 1071
Fos-LI, 543
free radicals, 389
freezing, 1071
frog neuromuscular junction, 927
frontal cortex, 675, 965
functional microcircuitry, 51
Fura-2AM, 519

GABA, 807
GABA interneurons, 1043
GABA release, 343
$GABA_A$ receptor, 119, 795
$GABA_B$ receptor, 127, 795
GABAergic interneurons, 433
GAD, 173
galanin, 265
gap junctional intercellular communication, 859
gastrointestinal, 141
GDNF, 1011
gender, 1061
GFP, 603
GFRα1, 1011

glia, 425
globus pallidus, 127
glucose, 593, 727
glutamate, 89
glutamate receptor, 735
glutamate receptors, 617, 841
glutamate release, 343
glutathione binding, 617
gonadal hormones, 559
GPI-1046, 753
granule cells, 163
group I metabotropic glutamate receptors (mGlu receptors), 787
growth cones, 923
guinea-pig, 243

heme oxygenase, 821
hemisections, 647
hippocampus, 63, 73, 81, 359, 603, 705, 721
histology, 721
HPA axis, 567
human brain, 1139
hyperalgesia, 525
hypothalamus, 319, 333, 603
hypothermia, 81
hypoxia, 283

I_h, 433
IGF-1, 593, 831
immediate-early genes, 499
immune response, 217
immune suppression, 217
immunocytochemistry, 821
immunohistochemistry, 127, 893, 1139
immunolabeling, 881
immunoprecipitation, 881
inactivation, 33, 235
inflammation, 425
inhibition, 953
inositol trisphosphate, 927
in situ hybridization, 333, 821, 869, 981
insulin, 727
interneuron, 367
intracellular magnesium, 973
intracerebroventricular, 577
intrinsic signal, 51
in vitro, 23
in vitro slice preparation, 417
[^{14}C]inulin, 577
ionotropic glutamate receptor, 155
iron, 425
ischemia, 831, 1011
isoprenaline, 913

kainate, 773
KCl, 519
kidney, 1011
knockout, 1025, 1035

L-DOPA, 97
labile memory, 913
large-conductance potassium channel, 33
lateral habenular nucleus, 647
lateral spiriform nucleus, 273
leaner, 639
lidocaine, 1071
limbic system, 309, 981
locomotor activity, 675
long-term potentiation, 359
LY393053, 787

magindo-1, 973
magnetic resonance spectroscopy, 89
masseter muscle, 209
medial prefrontal cortex, 1167
medulla, 1081
memory formation, 5
mesencephalic trigeminal nucleus, 209, 1089

metabotropic glutamate receptor, 1139
metabotropic glutamate receptors, 409
metallothionein, 425
Mg^{2+}, 973
mice, 293
microdialysis, 639
microinjection, 1071
migraine, 465
mitochondria, 183
mitochondrial dysfunction, 89
mitral cells, 325
modulation of GABA release, 273
modulatory receptor systems, 781
mollusc, 807
motoneuron death, 1101
motor co-ordination, 903
motor unit number, 1101
mouse central nervous system, 893
MRI, 721
mRNA, 119
multiple system atrophy, 377
multivariate analysis, 691
muscarinic receptor, 1035
muscarinic receptors, 273, 1129
muscle LIM protein, 1111
muscle rigidity, 1049
muscle spindle, 209
mutant mice, 209, 639
Müller gilal cells, 9

N-acetylaspartate (NAA), 89
N-ethyl-2-bromobenzylamine (DSP-4), 481
N-methyl-D-aspartate, 525
Na^+, K^+-ATPase, 73
NADPHd, 543
neocortex, 63, 841
neostriatum, 745
nerve injury, 197, 535
neural progenitor cells, 859
neurite, 603
neurites, 923
neuroanatomy, 869
neurodegeneration, 425, 841
neurogenesis, 1157
neurogenic inflammation, 255
neurokinins, 813
neuromodulator, 1089
neuromuscular junction, 227
neuron, 691
neuronal crosstalk, 189
neuronal dispersion, 73
neuronal metabolism, 903
neuropathic pain, 189
neuropeptide Y, 1025
neuroplasticity, 625
neuroprotection, 753, 831, 1011
neurosecretion, 927
neurosteroid, 807
neurotensin, 417
neurotransmitter release, 1121
neurotrophic factors, 1089
neurotrophin, 1003
NGF, 359, 1089
nickel, 519
nicotine, 283
nicotinic receptors, 273
nifedipine, 63, 519
nigrostriatal tract lesion, 119
nitrendipine, 227
nitric oxide, 1129
nitric oxide synthase, 525
nitrobenzylthioinosine, 81
NMDA receptor, 973
nociception, 807
nociceptive, 465
nodose ganglion, 255
non-radioactive *in situ* hybridization, 173
noradrenaline, 913
noradrenergic, 353
noradrenergic depletion, 481
NT-3, 1089
NTS, 141
nucleus accumbens, 113, 399, 1167
nucleus of the optic tract, 953
nucleus tractus solitarii, 155, 489
nucleus tractus solitarius, 499

odor preference, 691
olfaction, 691
olfactory bulb, 325
olfactory discrimination, 293
opioids, 433, 841
optical imaging, 23, 51
optokinetic reflex, 953
orbital cortex, 691
oscillation, 23
ouabain, 73
oxidant stress, 389
oxygen deprivation, 1157
oxytocin, 567

pain, 189, 197, 787, 813, 1081
parasynaptic communication, 577
paraventricular nucleus, 499
Parkinsonian model, 389
Parkinson's disease, 399, 1049
partial nerve injury, 1111
PC12, 923
pedunculopontine tegmental nucleus, 647
pelvic ganglion, 255
periaqueductal gray, 433, 1071
periaqueductal gray matter, 763
peripheral ganglia, 821
persistent pain, 559
phenytoin, 343
phosphorylation, 735
photoreceptors, 9
pig, 617
pilocarpine, 735
PKG Iα, 525
plasticity, 325
posterior commissure, 953
pre-terminals, 273
precocial rodents, 309
preganglionic nerves, 1121
presenilin, 593
presynaptic, 273
primary cell culture, 243
primate, 333, 399
proliferation, 993
proliferative activity, 923
proprioceptive afferent, 209
protein phosphorylation, 283
putamen, 399
pyramidal neurons, 965

quantal transmitter release, 927

rabbit sympathetic ganglia, 1129
raphe pallidus, 773
rat, 119, 173, 189, 265, 465, 691, 813
rat forebrain, 1157
receptor, 265
recovery, 353
regeneration, 821
Renin-Angiotensin system, 981
reserpine, 97
retinal degeneration, 9
retrograde labelling, 1101
reward, 675
Ricinus communis agglutinin (RCA_{120}), 23

schizophrenia, 675
search pattern, 481

sensorimotor cortex, 657
sensorimotor gating, 675
sensory nerve fibers, 255
serine, 705
serotonin, 173, 445
sex differences, 293, 1061
signal transduction, 705
smooth endoplasmic reticulum, 927
snail, 807
sodium current, 965
soluble guanylate cyclase, 525
solution hybridization/RNase protection assay, 265
somatosensory cortex, 51
spatial memory, 293
spatial navigation, 481
spinal cord, 197, 525, 787
spinal cord transection, 173
splice variants, 881
staggerer mutants, 903
steroid hormone receptor, 333
stress, 453
striatal phenotypic neurons, 831
striatal projection neurons, 1043
striatonigral degeneration, 377
striatum, 113, 127, 367
stroke, 625
strychnine, 781
substance P, 113, 535, 813, 1035
substantia nigra, 127, 389, 753
substantia nigra pars compacta, 417
subthalamic nucleus, 127, 409
swimming, 567
synaptic connectivity, 1003
synaptic depression, 141
synaptic plasticity, 5, 705
synaptic transmission, 1129
synchronized activity, 657
syntide II, 735

T2 maps, 89
tachykinin, 367
tachykinin receptor antagonists, 813
tactile allodynia, 189
tactile stimulation, 781
thalamus, 933
thermal hyperalgesia, 795
thermoregulation, 445
threonine protein kinases, 705
thyrotropin-releasing hormone, 1167
tottering, 639
touch-evoked agitation, 781
TRAAK, 893
transcription factor, 155
transplantation, 1011
TRH mRNA, 773
trk, 1003
trk phosphorylation, 359
trkA, 465
trkC, 209
TUNEL reaction, 163
tyrosine hydroxylase, 1025

ultrastructure, 763
uncoupler, 183
uterine cervix, 255

vagus, 773
validation, 721
vanilloid receptor (VR1), 183
vasodilation, 465
vasopressin, 319
ventral tegmental area, 417
ventrolateral medulla, 499
voltage-sensitive dye, 23
voltammetry, 1061
volume, 721
volume transmission, 577, 763

western blot, 1139
whole-cell recordings, 319